IN THE CLAIMS:

Please substitute the following claims for the same-numbered claims in the application:

1. (Currently Amended) A computer-implemented method for optimizing a supply to meet a demand, said method comprising ~~comprising the steps of~~;

determining a parts demand;

determining a machine supply, wherein said machine supply comprises in-stock machines;

maintaining a database of machine supply information, wherein said ~~the~~ machine supply information comprises: ~~including, for each of a plurality~~

a record of different machine types in said machine supply;[[,]]

a number of said different ~~machines of said~~ machine types in ~~the~~ said machine supply;[[,]]

a set of part types in each one of said different machine types;[[,]]

a corresponding monetary value for each part type;~~, and~~

a number of each part type in each one of said different machine types;

refurbishing cycle times for said each part type; and

repair costs for said each part type; and

configuring an optimal dismantling configuration ~~of the machine supply~~ to meet ~~the~~ said parts demand as a function of said ~~the~~ machine supply information, wherein said configuring comprises:

generating and outputting a list of said in-stock machines from said machine supply to dismantle such that a cost of meeting said parts demand is minimized;

determining whether additional machines should be purchased for dismantling in order to meet said parts demand at a lower cost than dismantling said in-stock machines on said list; and

generating a report of suggested additional machines to purchase for dismantling.

2. (Original) The method of claim 1 further comprising determining at least a portion of the parts demand that cannot be satisfied from the machine supply.

3. (Original) The method of claim 1 wherein the determining a parts demand step further comprises determining an internal demand and an external demand.

4. (Original) The method of claim 1 further comprising determining at least a portion of the machine supply that is not economically justified for dismantling.

5. (Original) The method of claim 4 wherein the determining at least a portion of the machine supply that is not economically justified for dismantling further comprises determining whether parts profit of a particular machine type is a predetermined percentage greater than machine profit of a particular machine type.

6. (Original) The method of claim 5 further comprising determining parts profit by adding

an average machine net investment book value to a total parts de-manufacturing expense to produce a sum, and subtracting the sum from a total valued parts with external demands average fair market value.

7. (Original) The method of claim 5 further comprising determining machine profit by adding the average net investment book value of the particular machine type to a total re-manufacturing expense for the particular machine type to produce a sum, and subtracting the sum from an average fair market value for the particular machine type.

8. (Original) The method of claim 4 wherein the determining at least a portion of the machine supply that is not economically justified for dismantling further comprises determining whether parts profit of a particular machine is greater than machine profit of the particular machine.

9. (Original) The method of claim 8 wherein the parts profit is determined by adding a machine average net investment book value to a total parts de-manufacturing expense to produce a sum, and subtracting the sum from a book value, the book value equal to the total parts with internal demands average net investment book value with a cost adjustment of the net investment book value.

10. (Original) The method of claim 8 wherein the machine profit is determined by adding the particular machine type average net investment book value to a total machine re manufacturing

expense to produce a sum, and subtracting the sum from an average fair adjustment to the net investment book value.

11. (Original) The method of claim 1 further comprising: determining a corresponding parts supply from the machine supply; and, matching the corresponding parts supply to the parts demand.

12. (Original) The method of claim 11 wherein the determining a corresponding parts supply further comprises the steps of; determining the part types in a particular machine type; determining the number of each of the part types in a particular machine type; and, multiplying the number of each of the part types in a particular machine type by the number of machines for the particular machine type in the machine supply.

13. (Original) The method of claim 11 further comprising: generating a covered parts list and a not-covered parts list if the part supply is less than the parts demand; and, wherein the configuring step comprises; determining the optimal dismantling configuration of the machines in the covered parts list; and, determining the optimal dismantling configuration of machines to harvest from the not-covered list.

14. (Original) The method of claim 13 wherein the covered parts list is divided into an internal and an external list.

15. (Original) The method of claim 1 wherein the optimal dismantling configuration is determined by linear programming.

16. (Original) The method of claim 1 wherein the optimal dismantling configuration is determined by maximizing a summation formula for revenue considering a number of factors for a part j and a machine i.

17. (Original) The method of claim 16 wherein the factors are: revenue from parts j sales (RV.sub.j); net investment cost of machine (TC.sub.i); processing cost of de-manufacturing machine i (PC.sub.i); total supply of machine i (S.sub.i) netted demand of part j (D.sub.j); parts not utilized (W.sub.ij); parts fulfillment (X.sub.ij); machines required to fulfill the desired parts (Y.sub.i).

18. (Original) The method of claim 17 wherein the summation formula is; 2 i j (RV j {X ij})-I (TCi {Y i})-i(PCi {Y i})

19. (Currently Amended) The method of claim 1 wherein said ~~the~~ machine supply information further comprises at least one of forecasted end of lease machine returns, propensities of said different machine types to yield specific parts at lease end, percentages of said different machine types which yield certain options when returned to stock at said lease end, and defined machine-to-parts de-manufacturing profit calculations ~~the number of parts for each of the part types in each of the machine types~~.

20. (Original) The method of claim 1 wherein the machine supply information further comprises a forecast of machines expected to be available at a predetermined time.

21. (Original) The method of claim 1 wherein the machine supply information further comprises an estimated number of parts for each of the part types in each of the machine types.

22. (Original) The method of claim 1 wherein the machine supply information further comprises fair market value of the part types and fair market value of the machine types.

23. (Original) The method of claim 1 wherein the machine supply information further comprises costs of de-manufacturing a specific machine type.

24. (Original) The method of claim 1 wherein the machine supply information further comprises data on the quality of parts yielded from de-manufacturing a specific machine type.

25. (Original) The method of claim 1 wherein the machine supply information further comprises codes for options on each of the machine types.

26. (Original) The method of claim 1 wherein the machine supply information further comprises quality of each of the machine types.

27. (Previously Presented) The method of claim 1 wherein the machine supply information further comprises time for de-manufacturing cycles of a particular machine type.

28-29. (Cancelled).

30. (Currently Amended) An economic supply optimization system comprising:

a processor;

a data storage device operably connected to ~~the~~ said processor, wherein said ~~the~~ data storage device is adapted to provide ~~providing~~ data storage for ~~the~~ said system; and

a database of machine supply information on ~~the~~ said data storage device, wherein said ~~the~~ machine supply information comprises: ~~including, for each of a plurality of machine types,~~

a record of different machine types in a machine supply, wherein said machine supply comprises in-stock machines;

a number of said different ~~machines of said~~ machine types in ~~the~~ said machine supply;[[,]]

a set of part types in each one of said different machine types;[[,]]

a corresponding monetary value for each part type;~~, and~~

a number of each part type in each one of said different machine types;

refurbishing cycle times for said each part type; and

repair costs for said each part type; and

a program executable by ~~the~~ said processor to determine a parts demand[[;]] and to ~~determine a machine supply; and,~~ configure an optimal dismantling configuration ~~of the~~

~~machine supply~~ to meet ~~the~~ said parts demand as a function of ~~the~~ said machine supply information in order to generate a list of said in-stock machines from said machine supply to dismantle,

wherein said program is further executable to determine whether additional machines should be purchased for dismantling in order to meet said parts demand at a lower cost than dismantling said in-stock machines on said list and to generate a report of suggested additional machines to purchase for dismantling .

31. (Original) The system of claim 30 wherein the program is further executable to determine at least a portion of the parts demand that cannot be satisfied from the machine supply.

32. (Original) The system of claim 30 wherein the program is further executable to determine at least a portion of the machine supply that is not economically justified for dismantling.

33. (Original) The system of claim 32 wherein the economic justification further comprises parts profit of a particular machine type being a predetermined percentage greater than machine profit of a particular machine type.

34. (Original) The system of claim 33 wherein the parts profit is determined by adding an average machine net investment book value to a total parts de-manufacturing expense to produce a sum, and subtracting the sum from a total valued parts with external demands average fair market value.

35. (Original) The system of claim 33 wherein the machine profit is determined by adding the average net investment book value of the particular machine type to the total re-manufacturing expense for the particular machine type to produce a sum, and subtracting the sum from an average fair market value for the particular machine type.

36. (Original) The system of claim 32 wherein the economic justification further comprises parts profit of a particular machine being greater than machine profit of the particular machine.

37. (Original) The system of claim 36 herein the parts profit is determined by adding a machine average net investment book value to a total parts de-manufacturing expense to produce a sum, and subtracting the sum from a book value, the book value equal to a total parts with internal demands average net investment book value with a cost adjustment to the net investment book value.

38. (Original) The system of claim 36 wherein the machine profit is determined by adding the particular machine type average net investment book value to a total machine re-manufacturing expense to produce a sum, and subtracting the sum from an average fair market value of the particular machine type model.

39. (Original) The system of claim 30 wherein the program is further executable to:

determine a corresponding parts supply from the machine supply; and, to match the

corresponding part supply to the parts demand.

40. (Original) The system of claim 39 wherein the program is further executable to determine the corresponding parts supply by: determining the part types in a particular machine type; determining the number of each of the part types in a particular machine type; and, multiplying the number of each of the part types in a particular machine type by the number of machines for the particular machine type in the machine supply.

41. (Original) The system of claim 39 wherein the program is further executable to:

generate a covered parts list and a not-covered parts list if the parts supply is less than the parts demand, and to configure the optimal dismantling configuration by: determining the optimal dismantling configuration of the machines in the covered parts list; and,

determining the optimal dismantling configuration of machines to harvest from the not-covered list.

42. (Original) The system of claim 41 wherein the covered parts list is divided into an internal and an external list.

43. (Original) The system of claim 30 wherein the optimal dismantling configuration is determined by linear programming.

44. (Original) The system of claim 30 wherein the optimal dismantling configuration is

determined by maximizing a summation formula for revenue considering a number of factors for a part j and a machine i.

45. (Original) The system of claim 44 wherein the factors are: revenue from parts j sales (RV.sub.j); net investment cost of machine (TC.sub.i); processing cost of de-manufacturing machine i (PCsub.i); total supply of machine i (S.sub.i); netted demand of part j (D.sub.j); parts not utilized (W.sub.ij); parts fulfillment (X.sub.ij); machines required to fulfill the desired parts (Y.sub.i).

46. (Original) The system of claim 45 wherein the summation formula is: 3 i j (RV j { X ij})-I (TCi {Yi})-i (PCi {Y i})

47. (Original) The system of claim 30 wherein the machine supply information further comprises the number of parts for each of the part types in each of the machine types.

48. (Original) The system of claim 30 wherein the machine supply information further comprises a forecast of machines expected to be available at a predetermined time.

49. (Currently Amended) The system of claim 30 wherein ~~the~~ said machine supply information further comprises ~~an estimated number of parts for each of the part types in each of the machine types~~ at least one of forecasted end of lease machine returns, propensities of said different machine types to yield specific parts at lease end, percentages of said different machine

types which yield certain options when returned to stock at said lease end, and defined machine-to-parts de-manufacturing profit calculations.

50. (Original) The system of claim 30 wherein the machine supply information further comprises fair market value of the parts and fair market value of each of the machine types.

51. (Original) The system of claim 30 wherein the machine supply information further comprises costs of de-manufacturing a specific machine type.

52. (Original) The system of claim 30 wherein the machine supply information further comprises data on the quality of parts yielded from de-manufacturing a specific machine type.

53. (Original) The system of claim 30 wherein the machine supply information further comprises codes for options on each of the machine types.

54. (Original) The system of claim 30 wherein the machine supply information further comprises quality of each of the machine types.

55. (Previously Presented) The system of claim 30 wherein the machine supply information further comprises de-manufacturing cycles of a particular machine type.

56-57. (Cancelled).

58. (Currently Amended) A program storage device readable by computer and tangibly embodying a program of instructions executable by said computer to perform a method for optimizing a supply to meet a demand, said method comprising ~~Computer executable process steps operative to control a computer, stored on a computer readable medium, for determining an optimal dismantling configuration comprising the steps of~~:

~~determine a parts demand;~~

~~determine a machine supply;~~

~~configure the optimal dismantling configuration to meet the demand with a particular number and a particular type or machine from the machine supply~~.

determining a parts demand;

determining a machine supply, wherein said machine supply comprises in-stock machines;

maintaining a database of machine supply information, wherein said machine supply information comprises:

a record of different machine types in said machine supply;

a number of said different machine types in said machine supply;

a set of part types in each one of said different machine types;

a corresponding monetary value for each part type;

a number of each part type in each one of said different machine types;

refurbishing cycle times for said each part type; and

repair costs for said each part type; and

configuring an optimal dismantling configuration to meet said parts demand as a function of said machine supply information, wherein said configuring comprises:

generating and outputting a list of said in-stock machines from said machine supply to dismantle;

determining whether additional machines should be purchased for dismantling in order to meet said parts demand at a lower cost than dismantling said in-stock machines on said list; and

generating a report of suggested additional machines to purchase for dismantling.

59. (Cancelled).

60. (Currently Amended) The program storage device of claim 58, wherein said method further comprises ~~computer executable process steps of claim 58 further comprising determine~~ determining at least a portion of the parts demand that cannot be satisfied from the machine supply.

61. (Currently Amended) The program storage device of claim 58, wherein said method further comprises ~~computer executable process steps of claim 58 further comprising determine~~ determining at least a portion of the machine supply that is not economically justified for dismantling.

62. (Currently Amended) The program storage device ~~computer executable process steps~~ of

claim 61 wherein the economic justification further comprises parts profit of a particular machine type being a predetermined percentage greater than machine profit of a particular machine type.

63. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 62 wherein the parts profit is determined by adding an average machine net investment book value to a total parts de-manufacturing expense to produce a sum, and subtracting the sum from a total valued parts with external demands average fair market value.

64. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 62 wherein the machine profit is determined by adding the average net investment book value of the particular machine type to the total re-manufacturing expense for the particular machine type to produce a sum, and subtracting the sum from an average fair market value for the particular machine type.

65. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 61 wherein the economic justification further comprises parts profit of a particular machine being greater than machine profit of the particular machine,

66. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 65 wherein the parts profit is determined by adding a machine average net investment book value to a total parts de-manufacturing expense to produce a sum, and subtracting the sum

from a book value, the book value equal to a total parts with internal demands average net investment book value with a cost adjustment to the net investment book value.

67. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 65 wherein the machine profit is determined by adding the particular machine type average net investment book value to a total machine re-manufacturing expense to produce a sum, and subtracting the sum from an average fair market value of the particular machine type model.

68. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 58 ~~further comprising steps to; determine a~~ wherein said method further comprises determining a corresponding parts supply from the machine supply; and, ~~to match~~ matching the corresponding part supply to the parts demand.

69. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 68 ~~further comprising the step to determine~~ wherein said method further comprises: determining the corresponding parts supply by determining the part types in a particular machine type; determining the number of each of the part types in a particular machine type; and, multiplying the number of each of the part types in a particular machine type by the number of machines for the particular machine type in the machine supply.

70. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 69 ~~further comprising the steps to: generate~~ wherein said method further comprises

generating a covered parts list and a not-covered parts list if the parts supply is less than the parts demand, and ~~to configure~~ configuring the optimal dismantling configuration by:

determining the optimal dismantling configuration of the machines in the covered parts list; and, determining the optimal dismantling configuration of machines to harvest from the not-covered list.

71. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 70 wherein the covered parts list is divided into an internal and an external list

72. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 58 wherein the optimal dismantling configuration is determined by linear programming.

73. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 58 wherein the optimal dismantling configuration is determined by maximizing a summation formula for revenue considering a number of factors for a part j and a machine i.

74. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 73 wherein the factors are:

revenue from parts j sales (RV.sub.j); net investment cost of machine (TC.sub.i); processing cost of de-manufacturing machine i (PCsub.i); total supply of machine i (S.sub.i); netted demand of part j (D.sub.j); parts not utilized (W.sub.ij); parts fulfillment (X.sub.ij); machines required to fulfill the desired parts (Y.sub.i).

75. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 74 wherein the summation formula is. 4 i j (RV j { X ij }) -i (TC i { Y i}) -i (PC i { Y i})

76. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 58 wherein the machine supply information further comprises the number of parts for each of the part types in each of the machine types.

77. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 58 wherein the machine supply information further comprises a forecast of machines expected to be available at a predetermined time.

78. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 58 wherein the machine supply information further comprises data on the quality of parts yielded from de-manufacturing a specific machine type.

79. (Currently Amended) The program storage device ~~computer executable process steps~~ of claim 58 wherein the machine supply information further comprises costs of de-manufacturing a specific machine type.

80. (Currently Amended) The program storage device ~~computer executable process steps~~ of

claim 58 wherein the machine supply information further comprises fair market value of the part types and fair market value of the machine types.

81. (Currently Amended) The program storage device ~~computer-executable process steps~~ of claim 58 wherein the machine supply information further comprises data on the quality of parts yielded from de-manufacturing a specific machine type.

82. (Currently Amended) The program storage device ~~computer-executable process steps~~ of claim 58 wherein the machine supply information further comprises codes for options on each of the machine types.

83. (Currently Amended) The program storage device ~~computer-executable process steps~~ of claim 58 wherein the machine supply information further comprises quality of each of the machine types.

84. (Currently Amended) The program storage device ~~computer-executable process steps~~ of claim 58 wherein the machine supply information further comprise times for de-manufacturing cycles of a particular machine type.

85. (Currently Amended) The program storage device of claim 58 ~~method of claim 1~~ wherein said machine supply information comprises at least one of forecasted end of lease machine returns, propensities of said different machine types to yield specific parts at lease end,

percentages of said different machine types which yield certain options when returned to stock at said lease end, and defined machine-to-parts de-manufacturing profit calculations ~~the machine supply information further comprise times for refurbishing cycles of a particular machine type~~.

86. (Cancelled).